WHAT IS CLAIMED IS:

1. A positive active material for a rechargeable lithium battery comprising:

a core comprising a lithiated compound; and

at least one surface-treatment layer formed on the core, the surface-treatment layer comprising at least two coating element-included oxides.

2. The positive active material according to claim 1, wherein the lithiated compound is at least one compound selected from the group consisting of compounds represented by the formulas 1 to 11:

$Li_xMn_{1-y}M'_yA_2$ (1)

$Li_xMn_{1-y}M'_yO_{2-z}X_z$ (2)

$Li_xMn_2O_{4-z}A_z$ (3)

$Li_xMn_{2-y}M'_yA_4$ (4)

$Li_xM_{1-y}M''_yA_2$ (5)

$Li_xMO_{2-z}A_z$ (6)

$Li_xNi_{1-y}Co_yO_{2-z}A_z$ (7)

$Li_xNi_{1-y-z}Co_yM''_zA_\alpha$ (8)

$Li_xNi_{1-y-z}Co_yM''_zO_{2-\alpha}X_\alpha$ (9)

$Li_xNi_{1-y-z}Mn_yM'_zA_\alpha$ (10)

$Li_xNi_{1-y-z}Mn_yM'_zO_{2-\alpha}X_\alpha$ (11)

wherein:

$0.95 \leq x \leq 1.1$, $0 \leq y \leq 0.5$, $0 \leq z \leq 0.5$, $0 < \alpha \leq 2$,

M is Ni or Co,

M' is at least one element selected from the group consisting of Al, Ni,

Co, Cr, Fe, Mg, Sr, V, Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Ac, Th, and Pa,

M" is at least one element selected from the group consisting of Al, Cr, Mn, Fe, Mg, Sr, V, Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Ac, Th, and Pa,

A is selected from the group consisting of O, F, S, and P, and

X is selected from the group consisting of F, S and P.

3. The positive active material for a rechargeable lithium battery according to claim 1, wherein the coating element content of the surface-treatment layer ranges from 2×10^{-5} to 1 wt% based on the weight of the positive active material.

4. The positive active material for a rechargeable lithium battery according to claim 3, wherein the coating element content of the surface-treatment layer ranges from 0.001 to 1 wt% based on the weight of the positive active material.

5. The positive active material for a rechargeable lithium battery according to claim 1, wherein the surface-treatment layer comprises at least two coating elements.

6. The positive active material for a rechargeable lithium battery according to claim 1, wherein the coating element of the surface-treatment layer comprises at least one coating element selected from the group consisting of Mg, Al, Co, K, Na, Ca, Si, Ti, Sn, V, Ge, Ga, B, As, and Zr.

7. A positive active material for a rechargeable lithium battery comprising:

a core comprising at least one lithiated compound; and

at least two surface-treatment layers formed sequentially on the core, at least one of the two surface-treatment layers including at least one coating element.

8. The positive active material according to claim 7, wherein the lithiated compound is at least one compound selected from the group consisting of compounds represented by the formulas 1 to 11:

$Li_xMn_{1-y}M'_yA_2$ (1)

$Li_xMn_{1-y}M'_yO_{2-z}X_z$ (2)

$Li_xMn_2O_{4-z}A_z$ (3)

$Li_xMn_{2-y}M'_yA_4$ (4)

$Li_xM_{1-y}M''_yA_2$ (5)

$Li_xMO_{2-z}A_z$ (6)

$Li_xNi_{1-y}Co_yO_{2-z}A_z$ (7)

$Li_xNi_{1-y-z}Co_yM''_zA_\alpha$ (8)

$Li_xNi_{1-y-z}Co_yM''_zO_{2-\alpha}X_\alpha$ (9)

$Li_xNi_{1-y-z}Mn_yM'_zA_\alpha$ (10)

$Li_xNi_{1-y-z}Mn_yM'_zO_{2-\alpha}X_\alpha$ (11)

wherein:

$0.95 \leq x \leq 1.1, 0 \leq y \leq 0.5, 0 \leq z \leq 0.5, 0 < \alpha \leq 2$,

M is Ni or Co,

M' is at least one element selected from the group consisting of Al, Ni, Co, Cr, Fe, Mg, Sr, V, Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Ac, Th, and Pa,

M" is at least one element selected from the group consisting of Al, Cr, Mn, Fe, Mg, Sr, V, Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Ac, Th, and Pa,

A is selected from the group consisting of O, F, S, and P, and

X is selected from the group consisting of F, S, and P.

9. The positive active material according to claim 7, wherein the coating element content of the surface-treatment layer ranges from 2×10^{-5} to 1 wt% based on the weight of the positive active material.

10. The positive active material according to claim 9, wherein the coating element content of the surface-treatment layer ranges from 0.001 to 1 wt% based on the weight of the positive active material.

11. The positive active material according to claim 7, wherein the coating element of the surface-treatment layer is at least one element selected from the group consisting of Mg, Al, Co, K, Na, Ca, Si, Ti, Sn, V, Ge, Ga, B, As, and Zr.

12. The positive active material according to claim 7, wherein the surface-treatment layer comprises at least two coating elements.

13. A method of preparing a positive active material for a rechargeable lithium battery comprising:

coating a lithiated compound with an organic solution or an aqueous solution including at least one coating-element source to produce a coated compound; and

heat-treating the coated compound,

wherein the coating and heat-treating steps are performed at least once.

14. The method according to claim 13, wherein the lithiated compound is at least one compound selected from the group consisting of compounds represented by the formulas 1 to 11:

$Li_xMn_{1-y}M'_yA_2$ (1)

$Li_xMn_{1-y}M'_yO_{2-z}X_z$ (2)

$Li_xMn_2O_{4-z}A_z$ (3)

$Li_xMn_{2-y}M'_yA_4$ (4)

$Li_xM_{1-y}M''_yA_2$ (5)

$Li_xMO_{2-z}A_z$ (6)

$Li_xNi_{1-y}Co_yO_{2-z}A_z$ (7)

$Li_xNi_{1-y-z}Co_yM''_zA_\alpha$ (8)

$Li_xNi_{1-y-z}Co_yM''_zO_{2-\alpha}X_\alpha$ (9)

$Li_xNi_{1-y-z}Mn_yM'_zA_\alpha$ (10)

$Li_xNi_{1-y-z}Mn_yM'_zO_{2-\alpha}X_\alpha$ (11)

wherein:

$0.95 \leq x \leq 1.1$, $0 \leq y \leq 0.5$, $0 \leq z \leq 0.5$, $0 < \alpha \leq 2$,

M is Ni or Co,

M' is at least one element selected from the group consisting of Al, Ni, Co, Cr, Fe, Mg, Sr, V, Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Ac, Th, and Pa,

M" is at least one element selected from the group consisting of Al, Cr, Mn, Fe, Mg, Sr, V, Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Ac, Th, and Pa,

A is selected from the group consisting of O, F, S, and P, and

X is selected from the group consisting of F, S, and P.

15. The method according to claim 13, wherein the content of the coating element source ranges from 0.1 to 50 wt%.

16. The method according to claim 15, wherein the content of the coating element source ranges from 1 to 20 wt%.

17. The method according to claim 13, wherein the organic solution or the aqueous solution comprises at least one coating element selected from the group consisting of Mg, Al, Co, K, Na, Ca, Si, Ti, Sn, V, Ge, Ga, B, As, and Zr.

18. The method according to claim 13, wherein the organic solution or the aqueous solution comprises at least two coating elements.

19. The method according to claim 13, wherein the heat-treatment step is performed at a temperature ranging from 200 to 800℃ for 1 to 20 hours.

20. The method according to claim 13, wherein the heat-treatment step is performed under flowing dry air.

21. The method according to claim 13, wherein the coating and heating steps comprise:

coating the lithiated compound with the organic solution or the aqueous solution including a coating-element source;

heat-treating the coated lithiated compound to form a surface-treatment layer on the lithiated compound;

further coating the heat-treated lithiated compound with the organic solution or the aqueous solution including a coating-element source; and

further heat-treating the resulting compound to form a surface-treatment layer on the first heat-treated lithiated compound.

22. The method according to claim 13, wherein the coating and the heat-treatment steps are performed three or more times.

23. A positive active material for a rechargeable lithium battery comprising:

a core comprising a lithium-cobalt chalcogenide compound; and

at least two surface-treatment layers sequentially formed on the core, wherein one of the two the surface-treatment layers comprises Al_2O_3.

24. The positive active material of claim 23, wherein the content of Al of the surface-treatment layer ranges from 2 X 10^{-5} to 2 percent by weight based on the weight of the positive active material.

25. The positive active material of claim 24, wherein the content of Al of the surface-treatment layer ranges from 0.001 to 2 percent by weight based on the weight of the positive active material.

26. A positive active material for a rechargeable lithium comprising:

a core comprising a lithium–manganese or lithium-cobalt chalcogenide compound; and

at least two surface-treatment layers sequentially formed on the core, wherein one of the two the surface-treatment layers comprises B.

27. The positive active material of claim 26, wherein the content of B of the surface-treatment layer ranges from 2 x 10^{-5} to 2 wt% based on the weight of the positive active material.

28. The positive active material of claim 27, wherein the content of

B of the surface-treatment layer ranges from 0.001 to 2 wt% based on the weight of the positive active material.